What is claimed is:

1.- Amplifying circuit, comprising:

- an amplifying element with at least an input terminal and an output terminal,
- a signal input node, the signal levels of which at at least two moments in time are to be amplified by the amplifying element,
- at least two connecting lines between the signal input node and the amplifying element, for transferring a signal from the signal input node to the input terminal of the amplifying element,
- a memory element on at least one of the connecting lines, for storing a signal level of the signal input node at a moment in time,
- a switching element disposed on each connecting line, between the memory element and the input terminal of the amplifying element if a memory element is provided on the connecting line, for consecutively connecting signal levels of the signal input node at different moments in time to the same amplifying element,
- at least one output node, each output node being connected to the output terminal of the same amplifying element.

2.- Amplifying circuit according to claim 1, wherein it comprises a memory element on each of the connecting lines.

3.- Amplifying circuit according to claim 1, comprising the same number of output nodes as there are connecting lines, output nodes and connecting lines being associated with each other according to a 1 to 1 relationship, each output node being consecutively connected over the same amplifying element to the connecting line with which it is associated.

4.- Amplifying circuit according to claim 1, wherein the amplifying element is a transistor.

5.- Amplifying circuit according to claim 1, wherein the amplifying element is a transistor of the type of metal oxide semiconductor transistors.

6.- Amplifying circuit according to claim 1, wherein the amplifying element is an operational transconductance amplifier.

7.- Amplifying circuit according to claim 1, wherein the memory element is a capacitor.

8.- An array of amplifying circuits, each amplifying circuit, comprising:

- an amplifying element with at least an input terminal and an output terminal,
- a signal input node, the signal levels of which at at least two moments in

time are to be amplified by the amplifying element,

- at least two connecting lines between the signal input node and the amplifying element, for transferring a signal from the signal input node to the input terminal of the amplifying element,
- a memory element on at least one of the connecting lines, for storing a signal level of the signal input node at a moment in time,
- a switching element disposed on each connecting line, between the memory element and the input terminal of the amplifying element if a memory element is provided on the connecting line, for consecutively connecting signal levels of the signal input node at different moments in time to the same amplifying element,
- at least one output node, each output node being connected to the output terminal of the same amplifying element, the array further comprising:
- at least one output line in common to all amplifying circuits of the array, the output nodes of the amplifying circuits being connected to the output lines.

9.- A device for imaging applications, comprising

- a matrix of active pixels arranged in a geometric configuration, each pixel producing an electrical signal indicative of the light intensity of a portion of a scene being imaged by that pixel,
- at least one amplifying circuit common to a group of pixels out of the matrix
- at least one output line

wherein each amplifying circuit comprises

- an amplifying element with at least an input terminal and an output terminal,
- a signal input node being intended to obtain electrical signals from pixels out of the group of pixels to which the amplifying circuit is common, the signal levels of which are to be amplified by the amplifying element,
- at least two connecting lines between the signal input node and the amplifying element, for transferring an electrical signal from the signal input node to the input terminal of the amplifying element,
- a memory element on at least one of the connecting lines, for storing a signal level of the electrical signal at the signal input node at a moment in time,
- a switching element disposed on each connecting line, between the memory element and the input terminal of the amplifying element if a memory element is provided on the connecting line, for consecutively connecting signal levels of the electrical signals at the signal input node at different moments in time to

the same amplifying element,

- at least one output node, each output node being connected to the output terminal of the same amplifying element.

10.- Device according to claim 9, wherein the matrix is arranged in columns and rows and wherein the group of pixels is a row of pixels.

11.- Device according to claim 9, wherein the matrix is arranged in columns and rows and wherein the group of pixels is a column of pixels.

12.- Device according to claim 9, wherein the output lines are common to the matrix of active pixels, the output node of each amplifying circuit being connected to the output lines.

13.- Use of the device of any of claims 9 to 12 in camera systems or imaging applications requiring a high image quality.

14.- A pixel adapted for integration in an imaging device, comprising

- a radiation sensitive element able to produce an electrical signal indicative of the amount of radiation picked up by that pixel,
- an amplifying circuit

wherein the amplifying circuit comprises

- an amplifying element with at least an input terminal and an output terminal,
- a signal input node, the signal levels of which at at least two moments in time are to be amplified by the amplifying element, the signal levels being obtained from the radiation sensitive element,
- at least two connecting lines between the signal input node and the amplifying element, for transferring a signal from the signal input node to the input terminal of the amplifying element,
- a memory element at least one of the connecting lines, for storing a signal level of the signal input node at a moment in time,
- a switching element disposed on each connecting line, between the memory element and the input terminal of the amplifying element if a memory element is provided on the connecting line, for consecutively connecting signal levels of the signal input node at different moments in time to the same amplifying element,
- at least one output node, each output node being connected to the output terminal of the same amplifying element.

15.- Pixel according to claim 14, wherein the radiation sensitive element is a photodiode.

16.- Pixel according to claim 14, wherein the radiation sensitive element is a infrared photodetector.

17.- A method for reducing fixed pattern noise of solid state imaging device having a group of active pixels, each pixel comprising a radiation sensitive element and an amplifying circuit, the method comprising the following steps:

- reading out the signal of a pixel brought in a first state and storing the corresponding voltage level in a first memory element
- reading out the signal of the pixel brought in a second state (which is different from the first state) and storing the corresponding voltage level in a second memory element
- transferring the signal of the first memory element to an amplifying element, amplifying it and transferring it to an output line
- transferring the signal of the second memory element to the same amplifying element, amplifying it and transferring it to an output line
- repeating these steps for at least part of the pixels of the imaging device.

18.- Method according to claim 17, wherein each memory element uses one output line.

19.- Method according to claim 17, wherein it furthermore comprises the step of calculating a differential output signal by taking the difference between potential values on the output lines.

20.- Method according to claim 17, wherein the first state and the second state correspond to different amounts of radiation collected on the radiation sensitive element in the pixel.

21.- Method according to claim 20, wherein the first state or the second state corresponds to an amount of radiation or light collected on the radiation sensitive element in the pixel.

22.- Method according to claim 20, wherein the second state or the first state corresponds to a non-irradiated or non-illuminated or dark or reset state of the pixel.

23.- Method according to claim 17, wherein the pixel is read out in additional states and its corresponding voltage level is being stored on additional memory elements.

24.- Method according to claim 17, wherein the signal of the first memory element is transferred to the first output line common for the group, and concurrently, the signal of the second memory element of another amplifier is transferred to the second output line common for said group.

25.- Method for reducing fixed pattern noise and kTC noise in a solid state imaging

device having a group of active pixels, each pixel comprising a radiation sensitive element and an amplifying circuit, said method comprising the following steps:

- reading out the signal of a pixel in a first state, corresponding to the non-illuminated or dark condition of said pixel or to the rest state of said pixel, and storing the corresponding voltage level alternatingly on a first or a third memory element
- reading out the signal of the pixel in a second state, at a later moment in time, corresponding to an amount of radiation or light collected on the radiation sensitive element of said pixel, and storing the corresponding voltage level on a second memory element
- alternatingly transferring the signal of the first or the third memory element to an amplifying element, amplifying it and transferring it to an output line that is common to said group of pixels
- transferring the signal of the second memory element to the same amplifying element, amplifying it and transferring it to an output line that is common to said group of pixels
- repeating this operation for essentially all or part of the pixels of the imaging device.